

Figure 1

METHOD AND APPARATUS FOR OFFERING PREFERRED
TRANSPORT WITHIN A BROADBAND SUBSCRIBER NETWORK
DOCKET NO: 026215-00001
Kurt A. DOBBINS

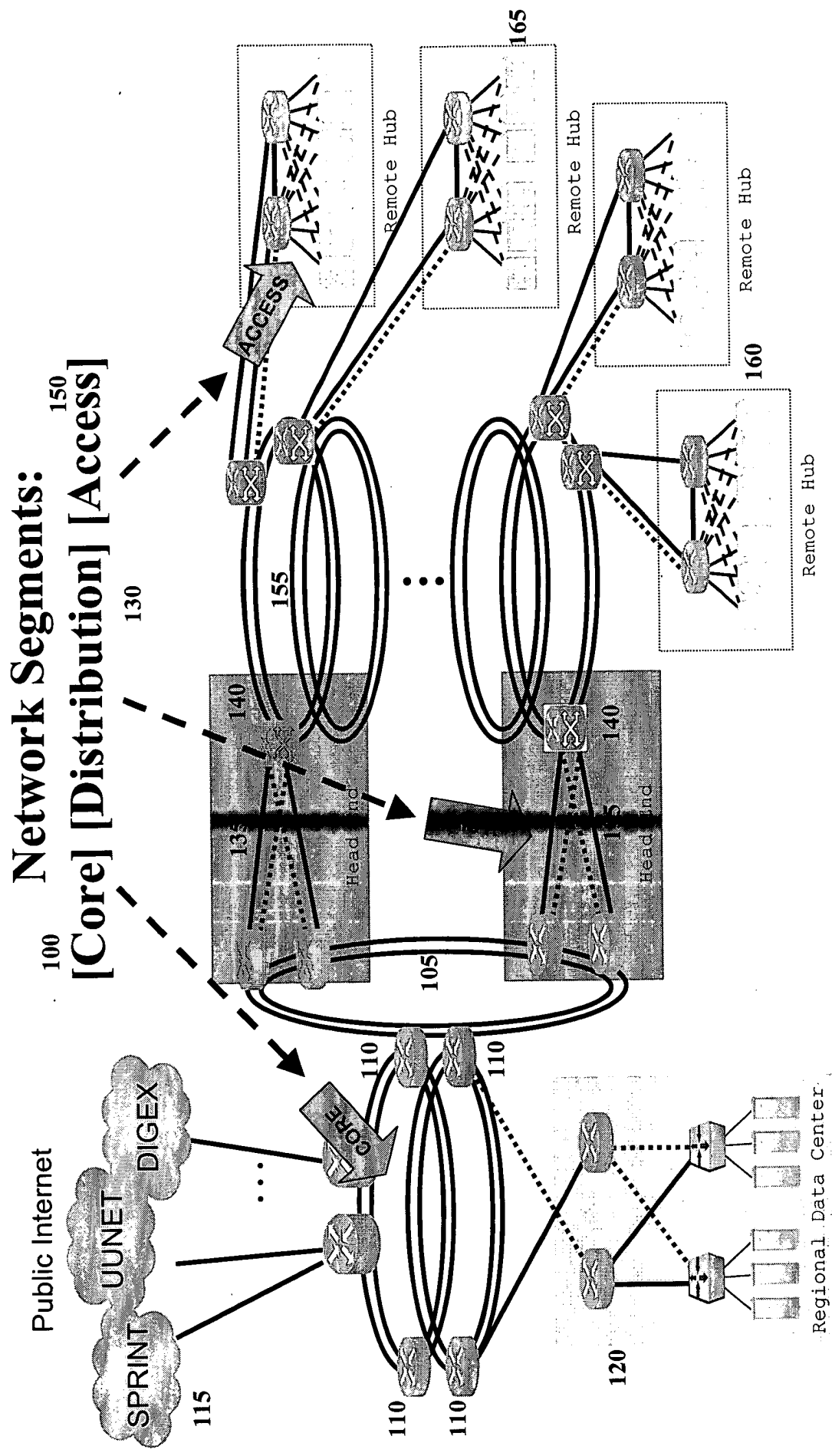


Figure 2

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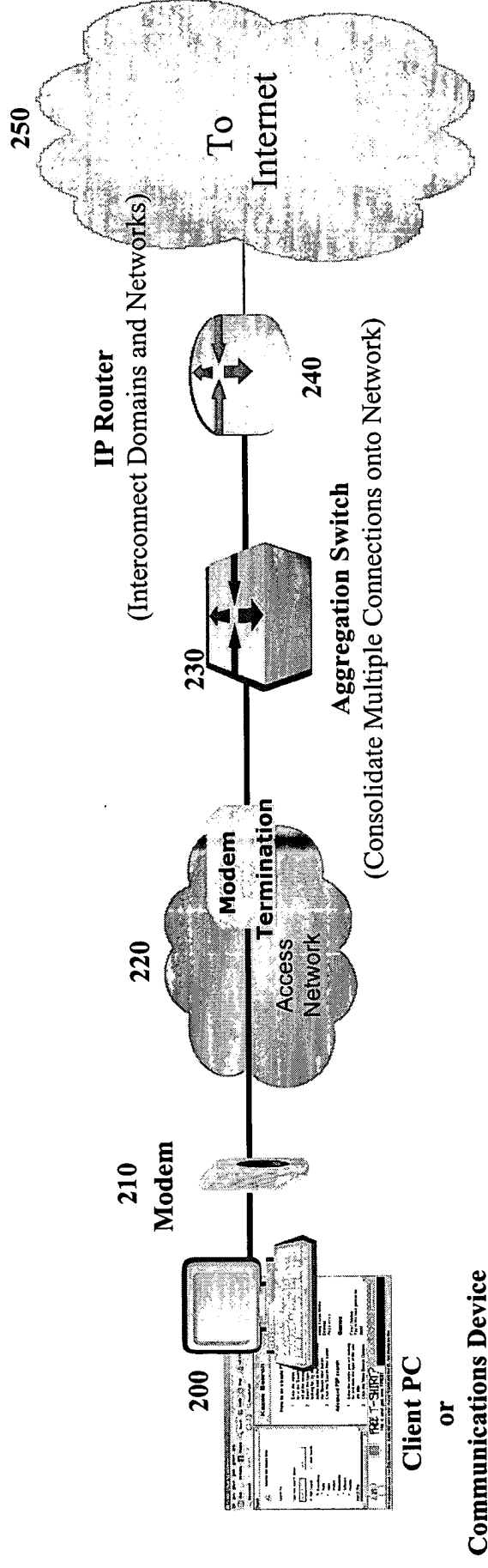


Figure 3

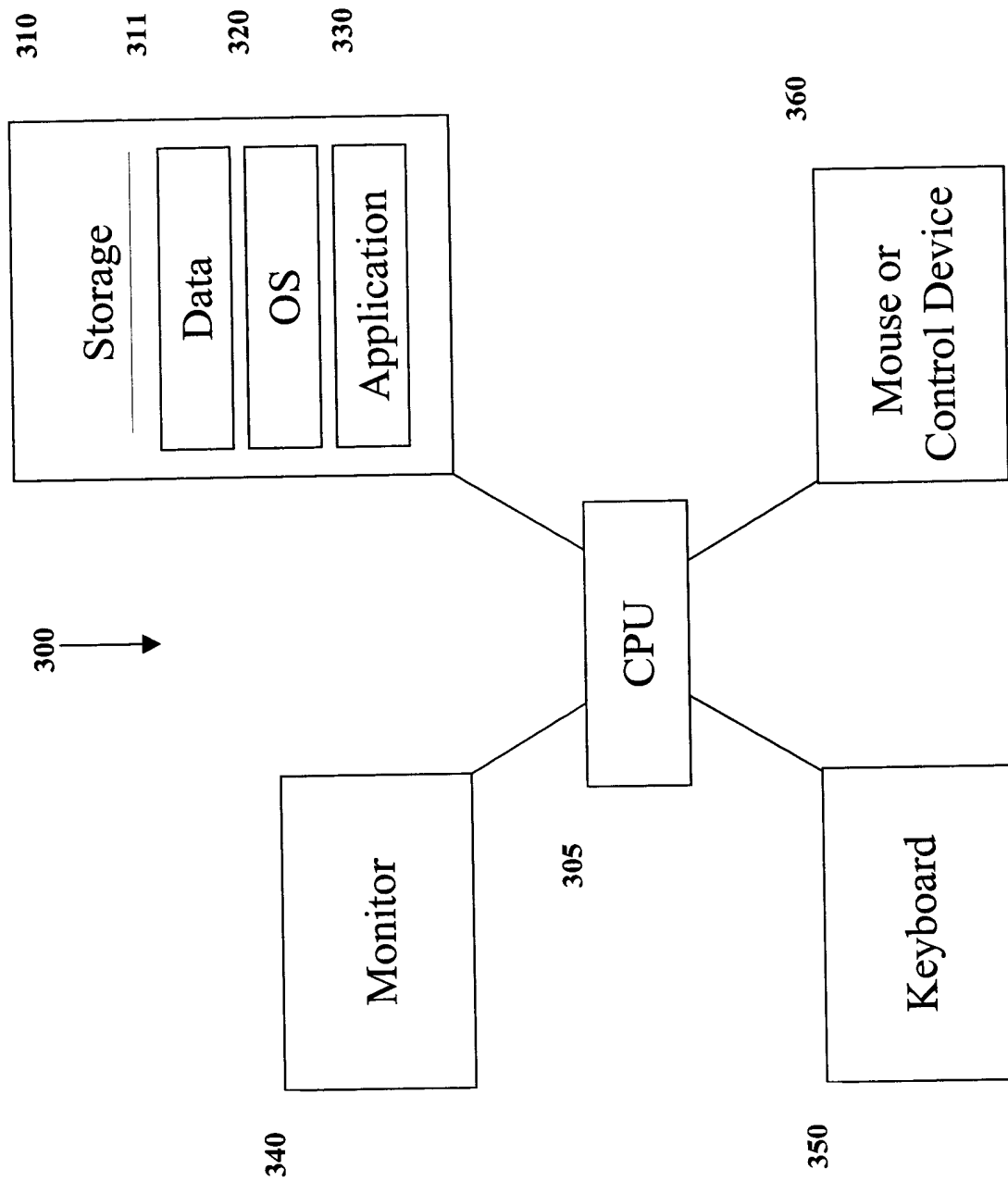


Figure 4

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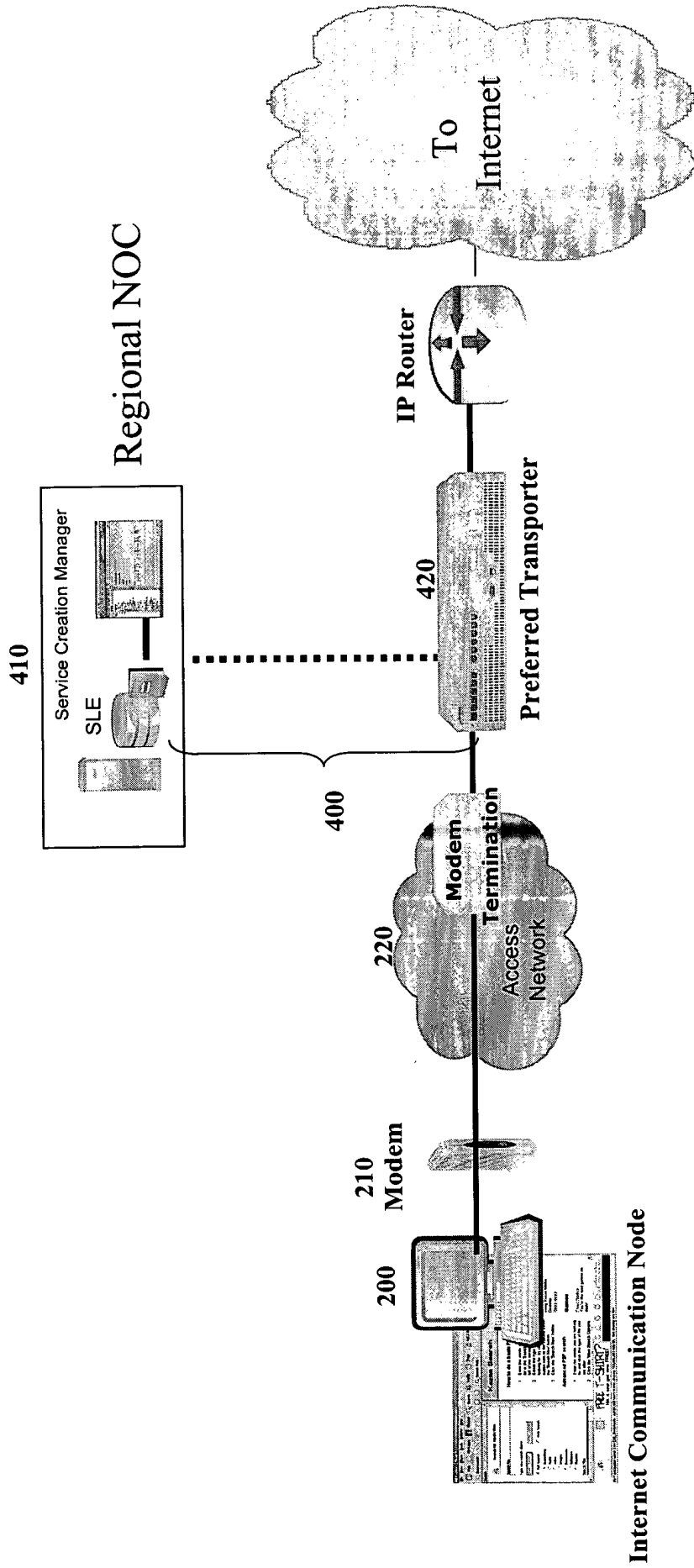


Figure 5

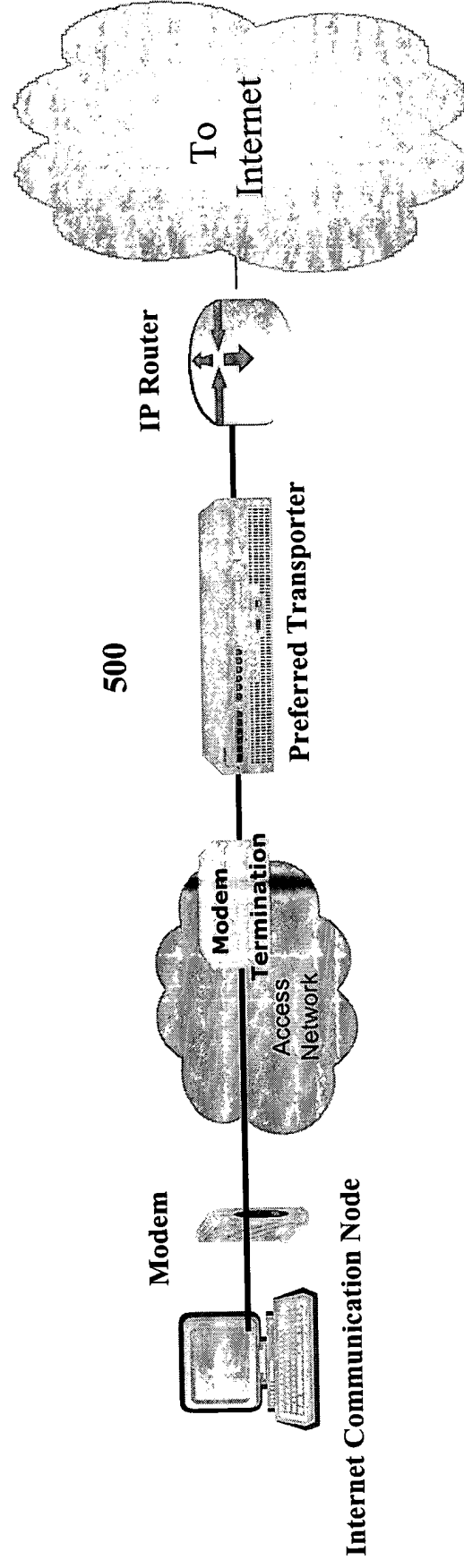
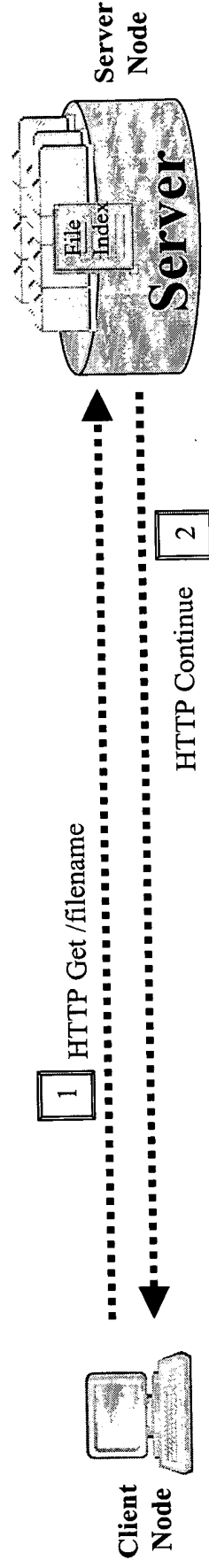


Figure 6

**In Client/Server
networks, nodes
act only as clients**

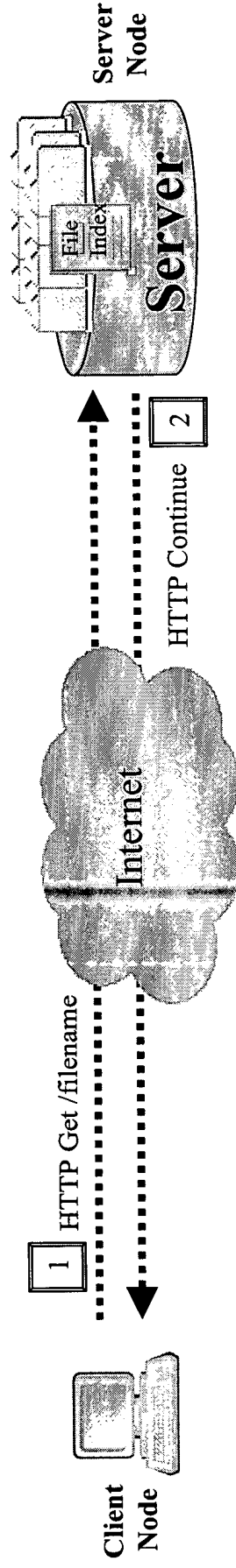


1. Client requests file
2. Server returns file

Figure 7

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In Client/Server
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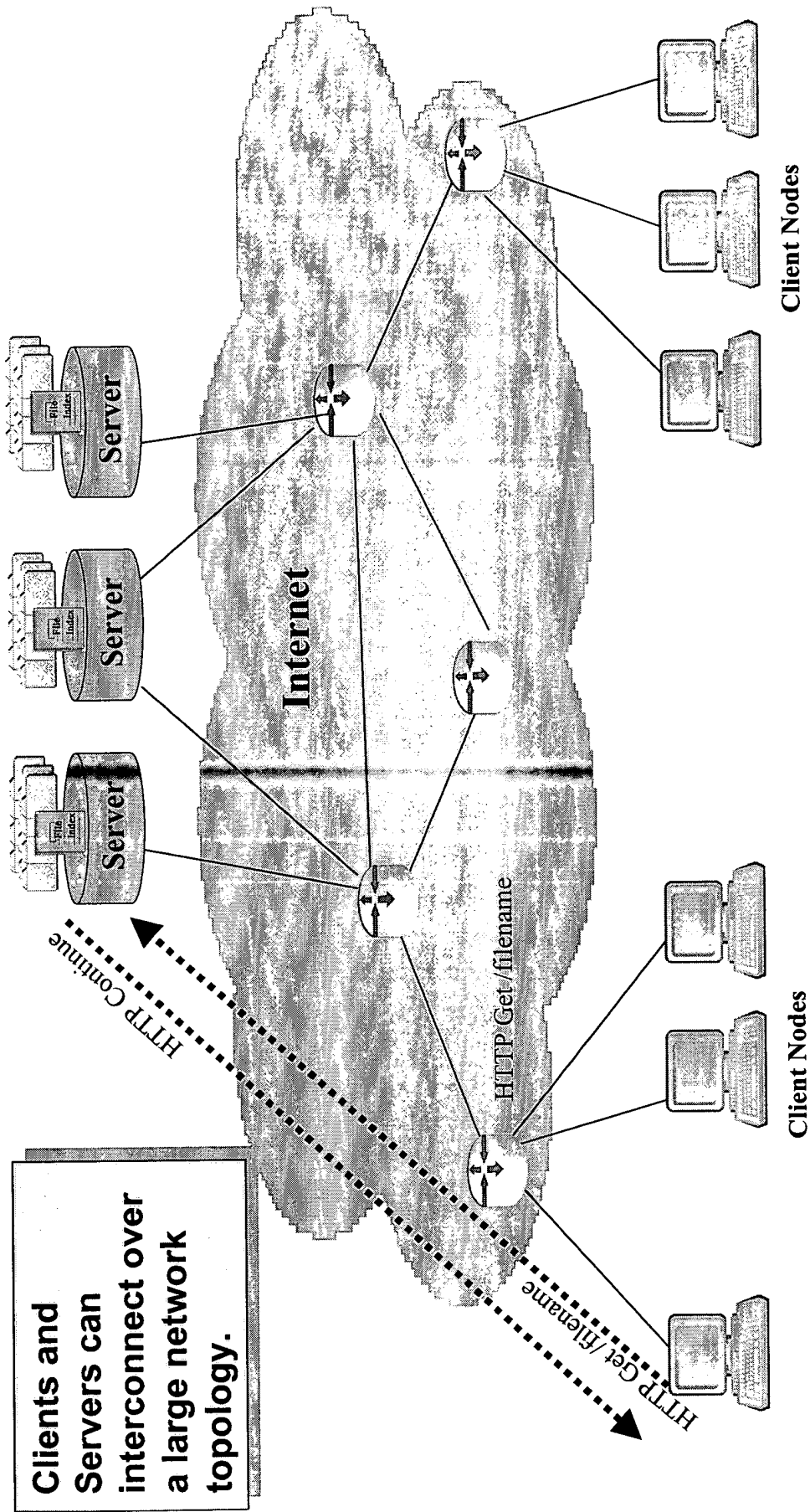
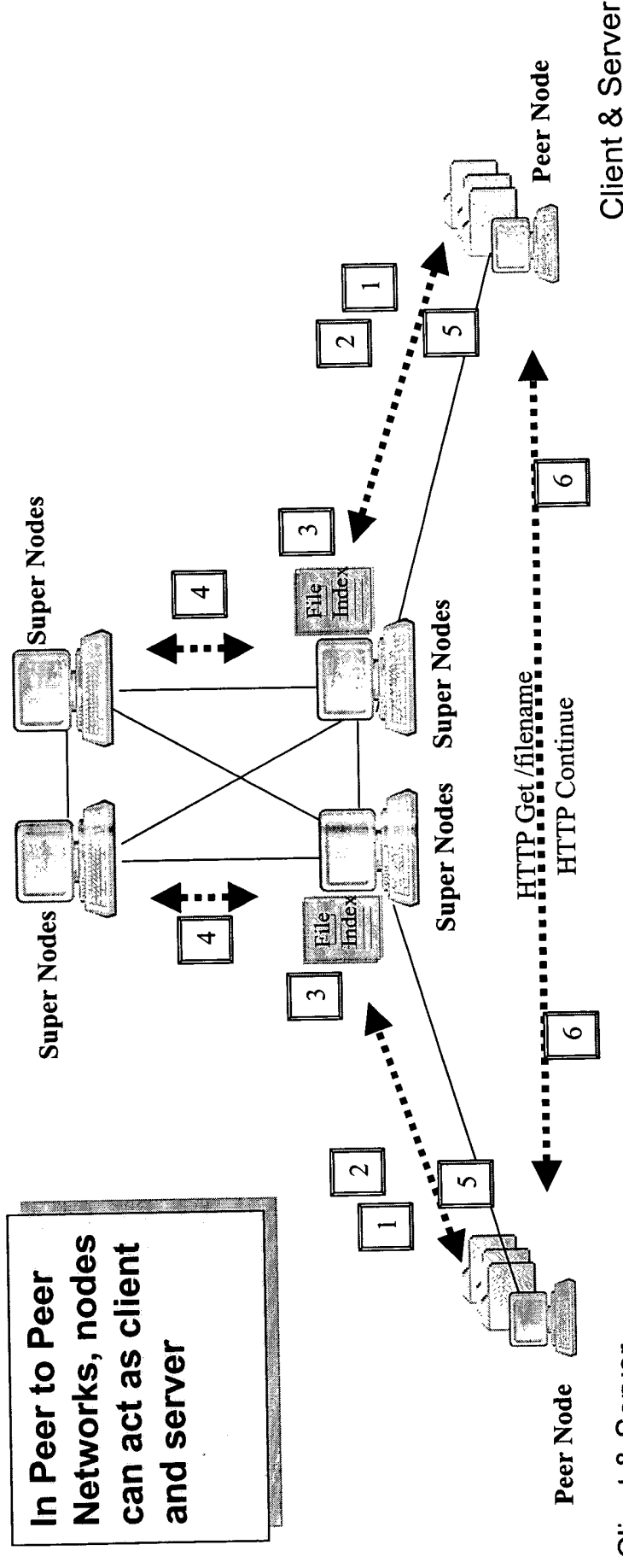


Figure 9

In Peer to Peer Networks, nodes can act as client and server



1. Peer Node finds Super Node
2. Peer Node registers files to share with Super Node
3. Super Node maintains index of shared files and Peer Nodes
4. Super Nodes search other Super Nodes
5. Super Node returns Peer Node that has copy of requested file
6. Peer Nodes then communicate directly to transfer file

Figure 10

**Super Nodes can
interconnect over
a large network
topology.
Peer Nodes form
a global file
sharing network.**

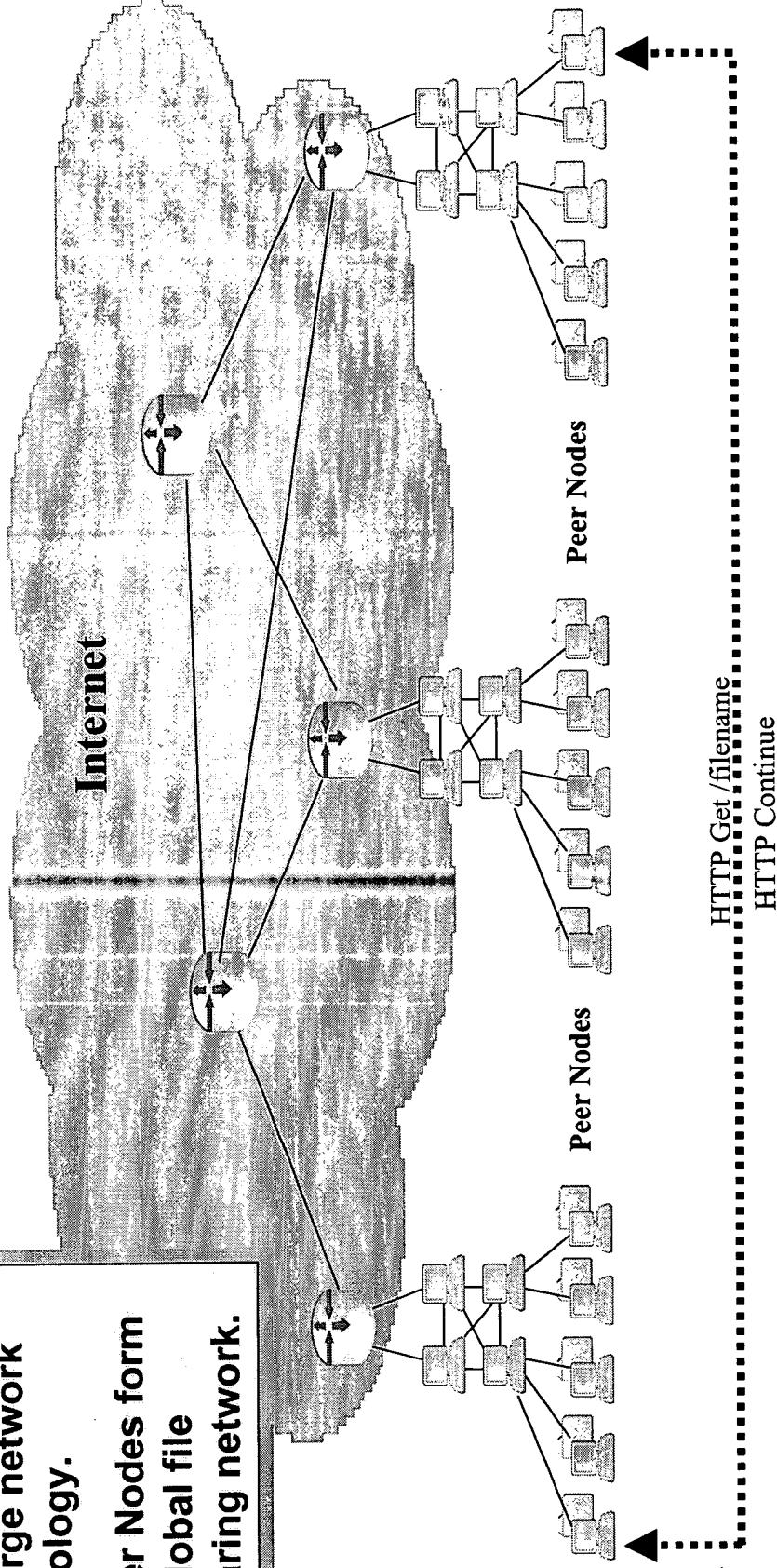


Figure 11

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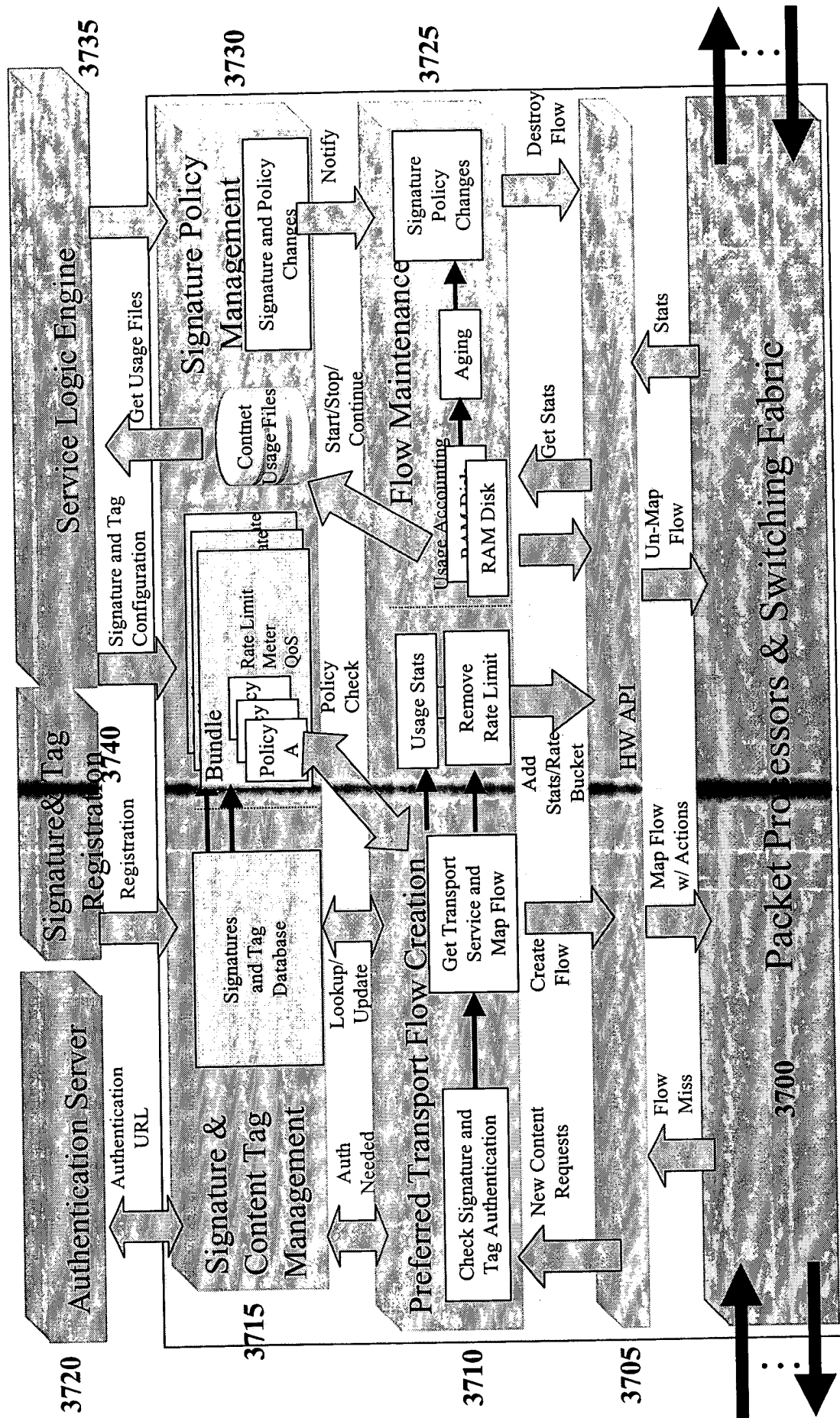
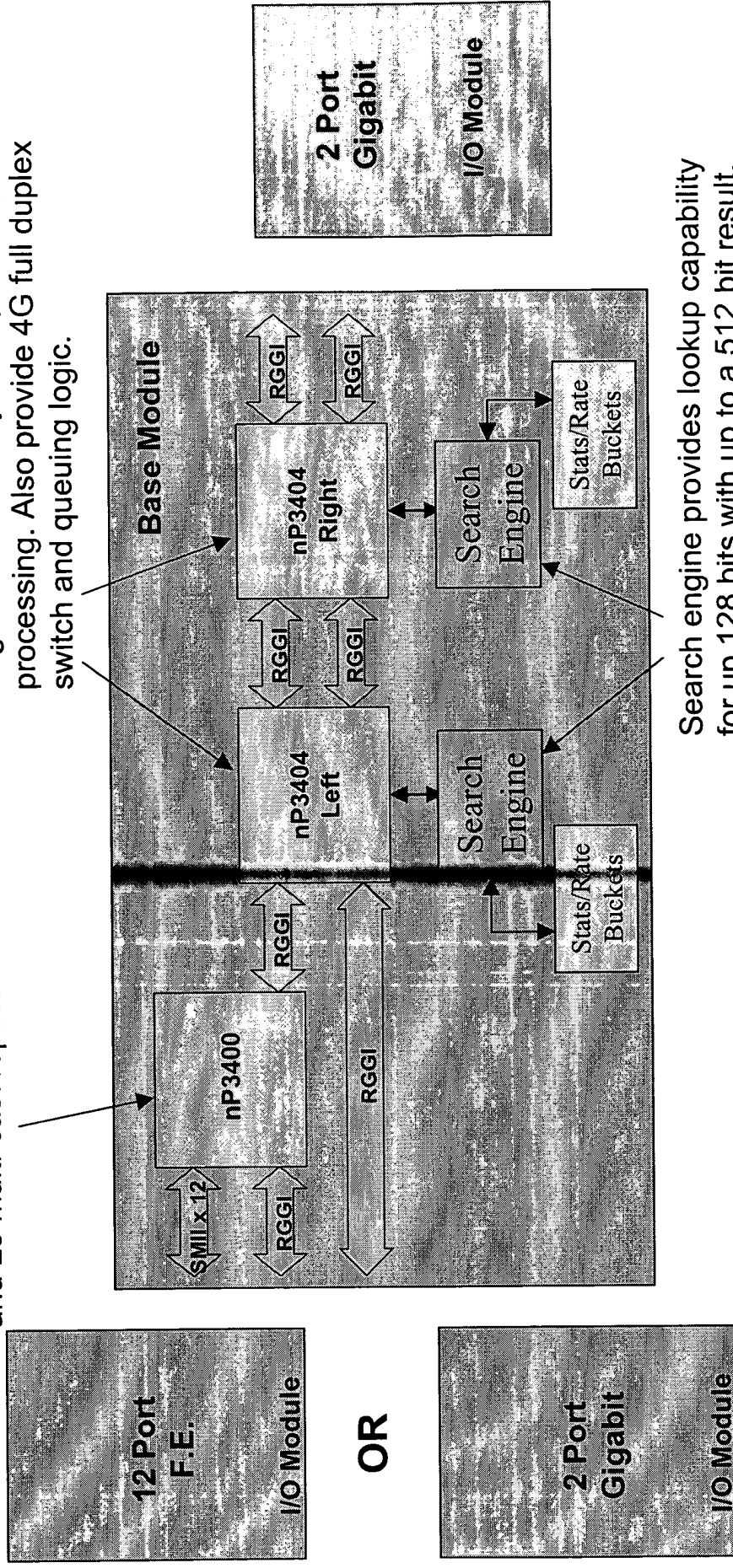


Figure 12

MMC nP3400 used for F.E. aggregation
and L3 multi-cast replication

MMC nP3404 used as network processing
engines. Extract keys and perform packet
processing. Also provide 4G full duplex
switch and queuing logic.



Search engine provides lookup capability
for up to 128 bits with up to a 512 bit result.
Also provides rate limiting and statistics
functions.

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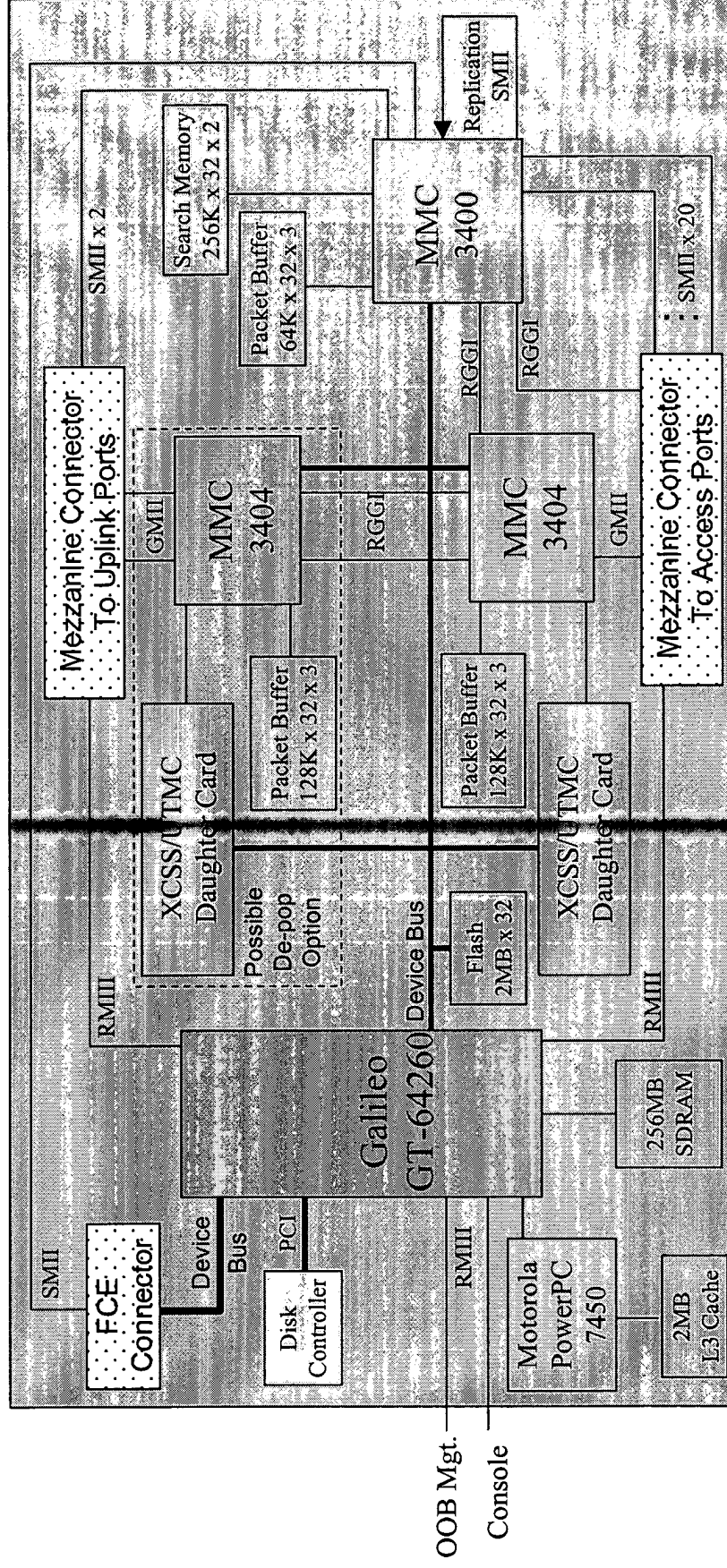


Figure 14

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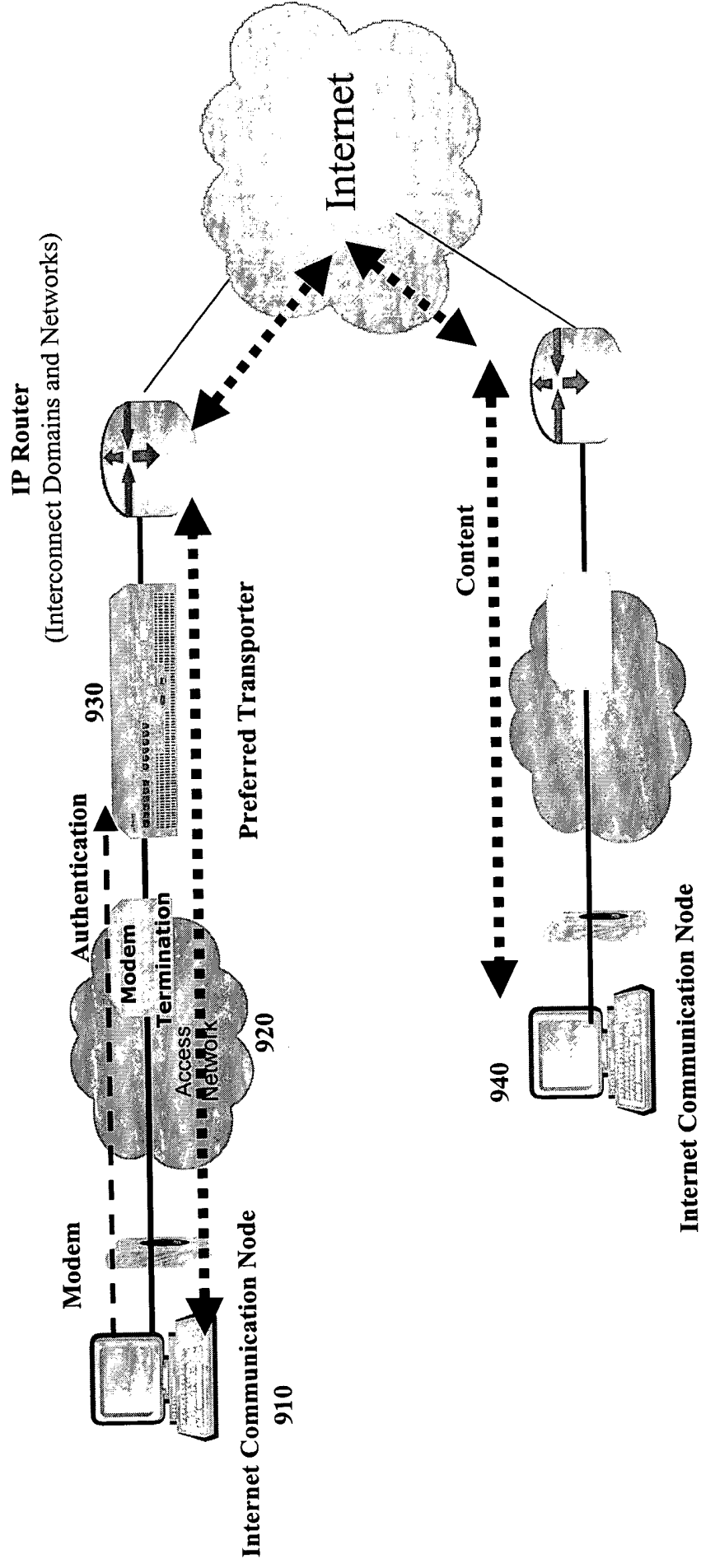


Figure 15

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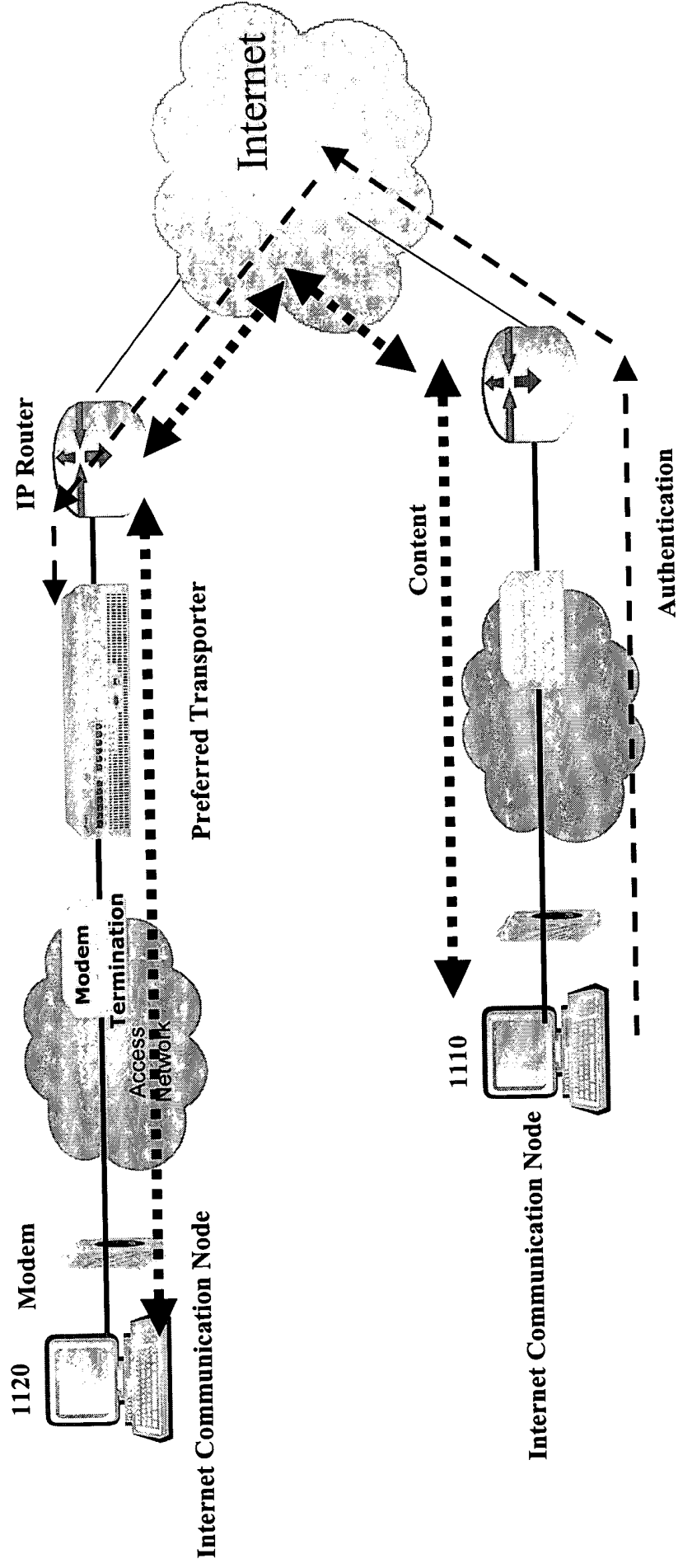
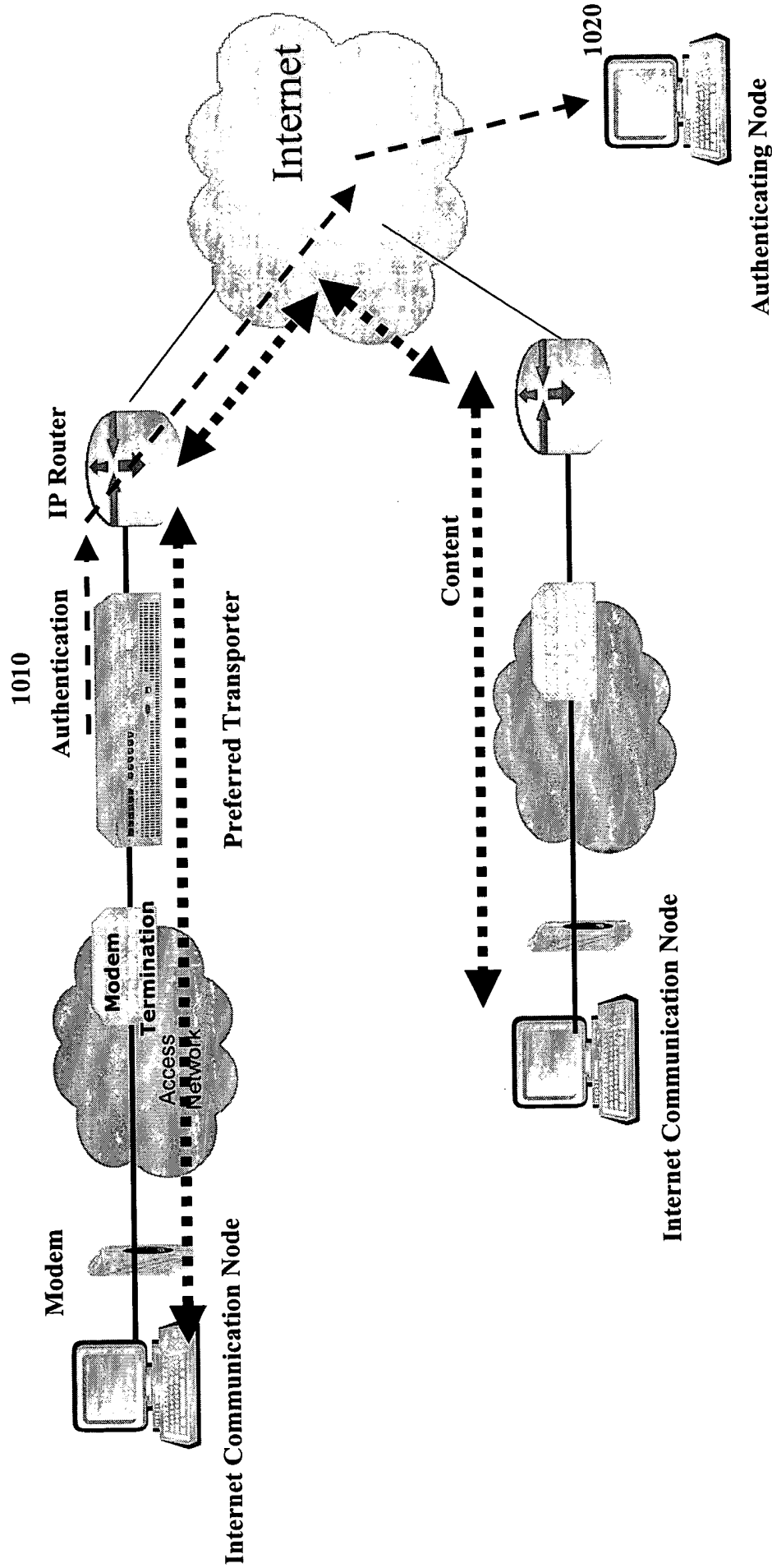


Figure 16

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1	2	3	4	5	6	7	8	9	0	1	1	1	1	1	1	1	1	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	
Tag Identifier			Tag Length			Tag Version			Reserved			Transport Service			Authenticated Transport			Reserved																	
Content Class/Type Encoded OID																		Content Application Encoded OID																	
Content Originator Encoded OID																		Content Meta Data Encoded OID																	
Authentication URL																																			

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Field	Length (bytes)	Description	Comments
Tag ID	4	Well-known tag identifier. Allows different tag types to be supported	Value set to "AUTH"
Tag Length	4	Indicates the remaining length of the tag.	Maximum Length of 128 bytes
Tag Version	4	Version of Tag Structure	Value set to "1.0"
Reserved	4	Reserved for Future Use	Unused
Transport Service	4	Preferred Transport Bit Mask for Transport Service Preference.	1 = No Rate Limit 2 = No Byte Cap 4 = On-Demand BW 8 = BLOCK ACCESS
Authenticated Transport	4	Digital Signature used to authenticate preferred transport	
Reserved	8	Reserved for Future Use	Unused
Content Class/Type	16	OID syntax from Content Class naming tree.	Encoded using ASN.1 BER {tag/len/value}
Content Application	16	OID syntax from Application naming tree.	Encoded using ASN.1 BER {tag/len/value}
Content Originator	16	OID syntax from Content Originator naming tree.	Encoded using ASN.1 BER {tag/len/value}
Content Meta Data	16	OID syntax from Content Meta Data naming tree.	Encoded using ASN.1 BER {tag/len/value}
Authentication URL	32	URL of authentication server	

Figure 19

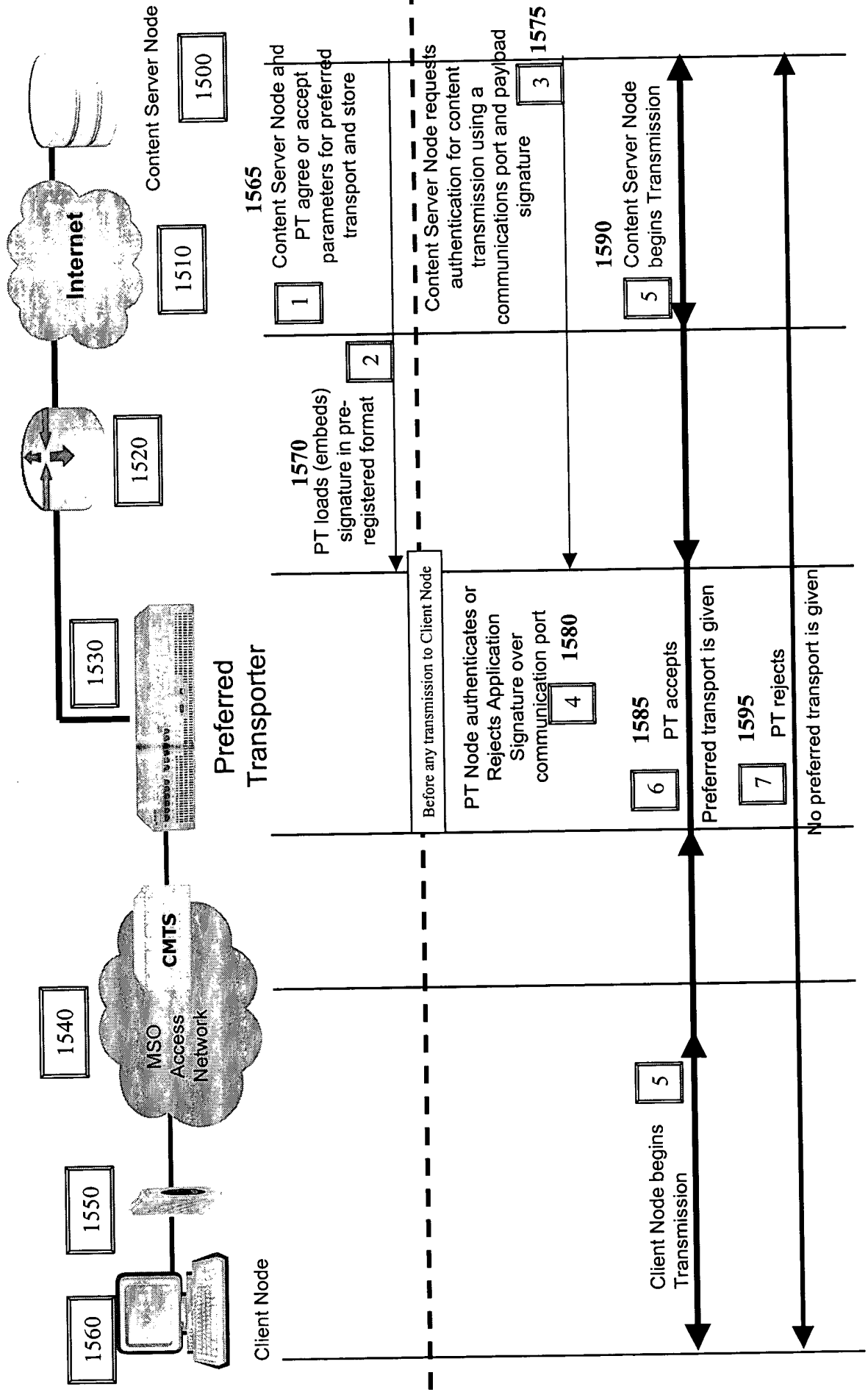
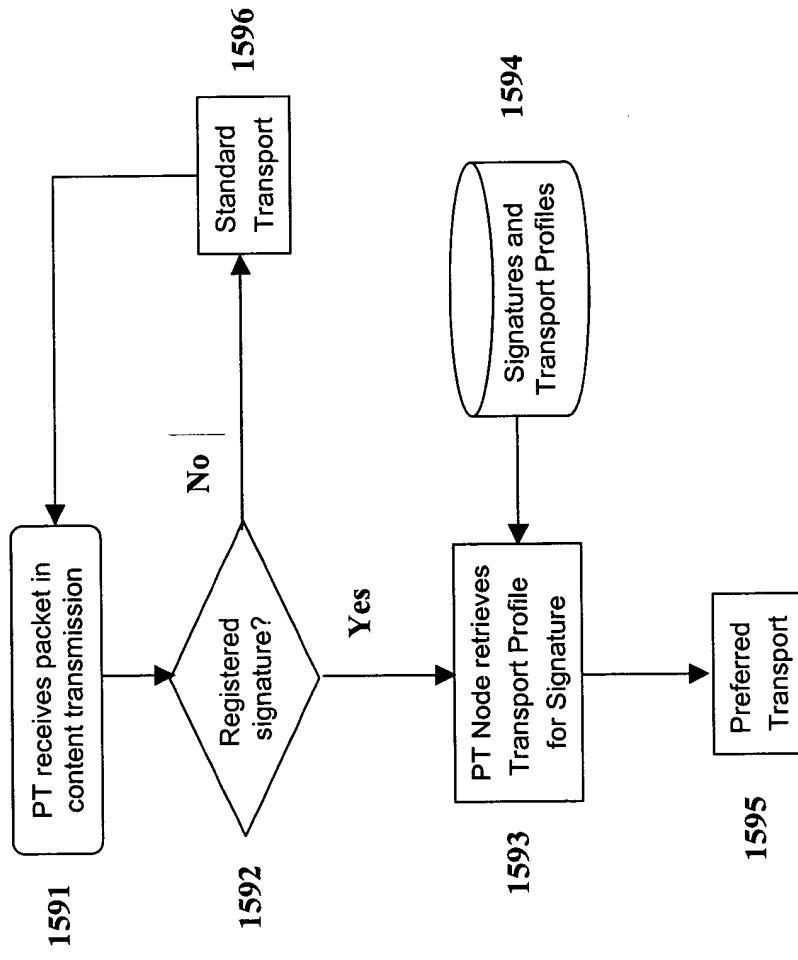


Figure 19a



METHOD AND APPARATUS FOR OFFERING PREFERRED TRANSPORT WITHIN A BROADBAND SUBSCRIBER NETWORK

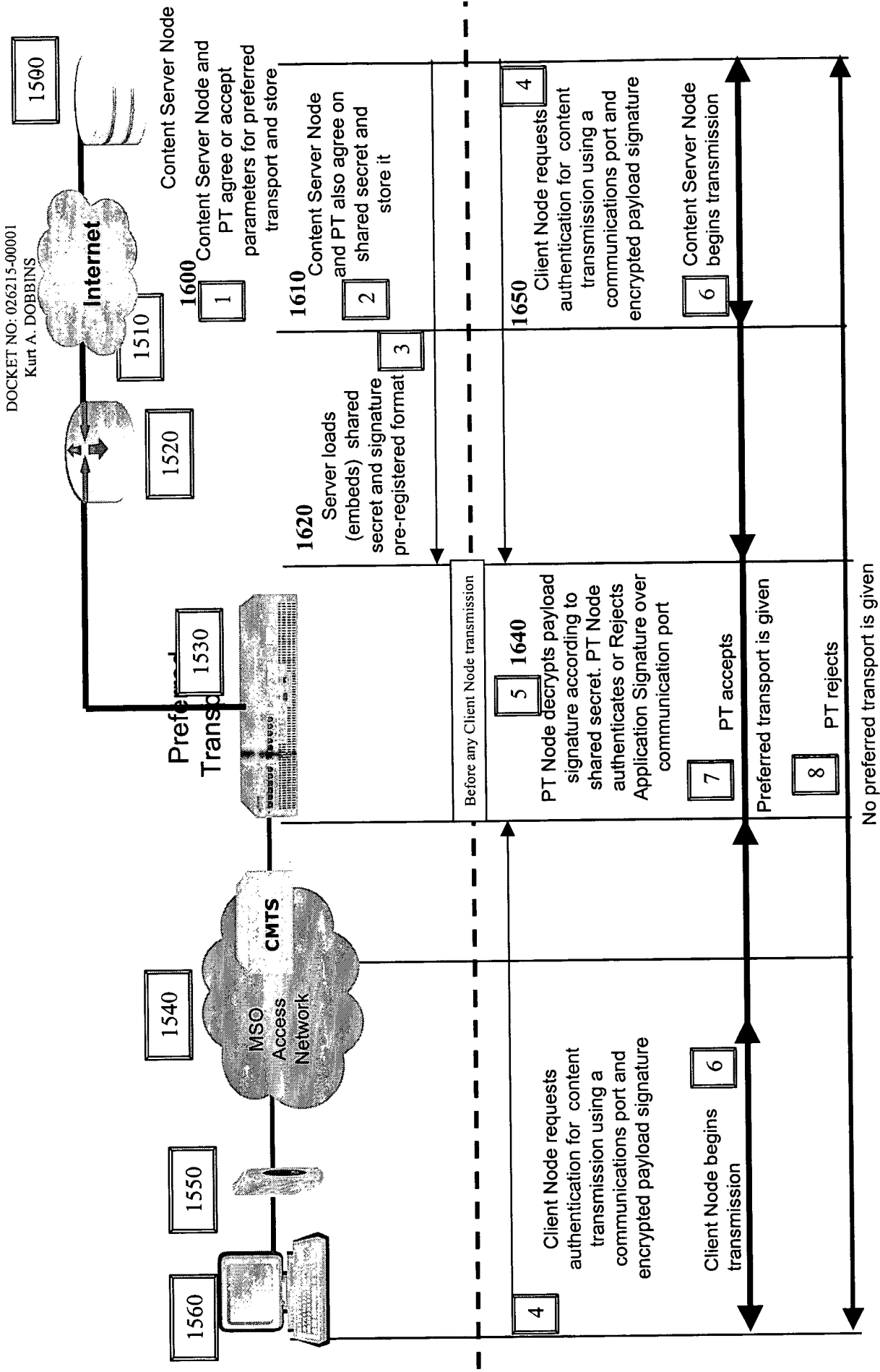


Figure 20a

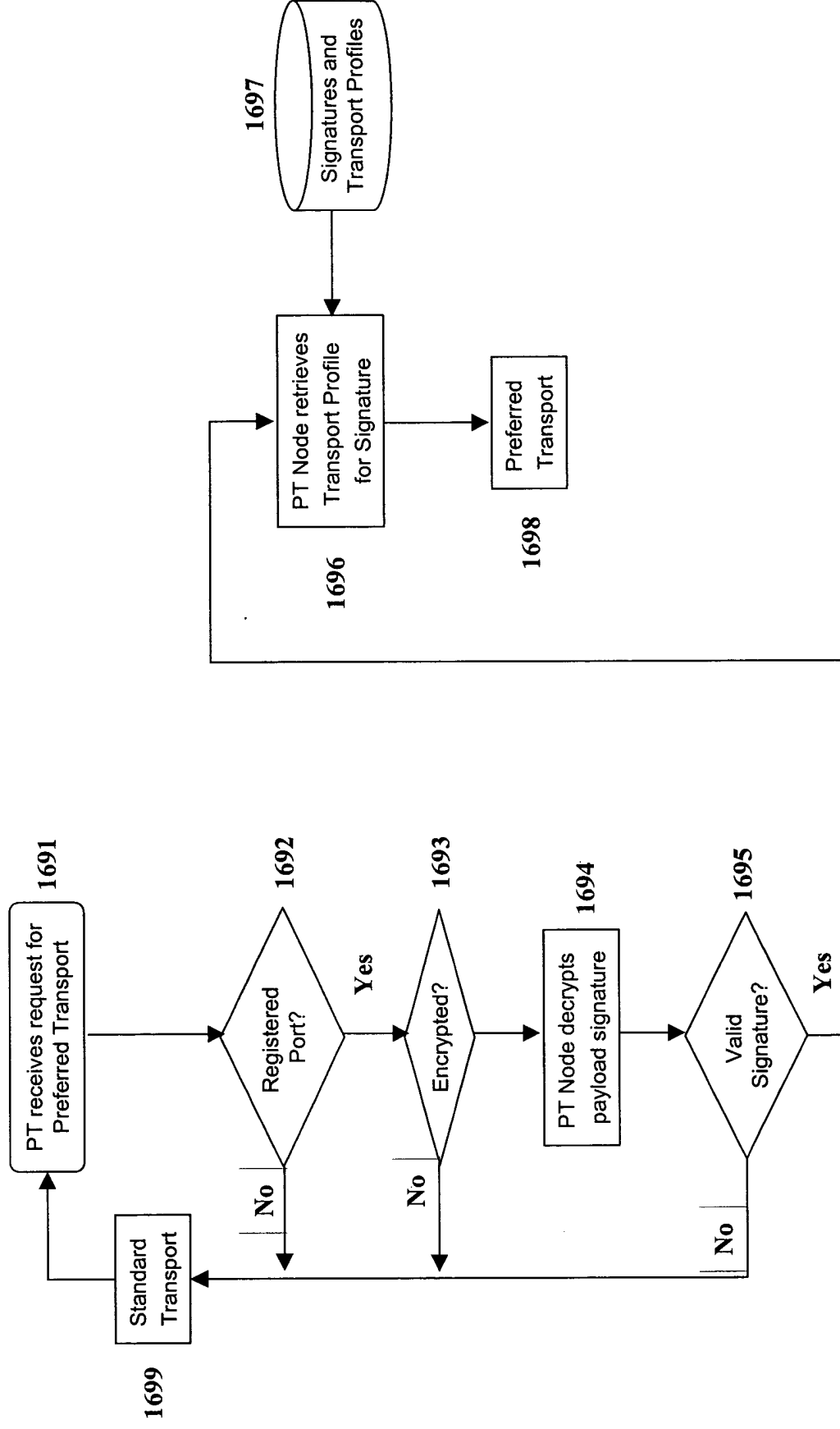


Fig 21

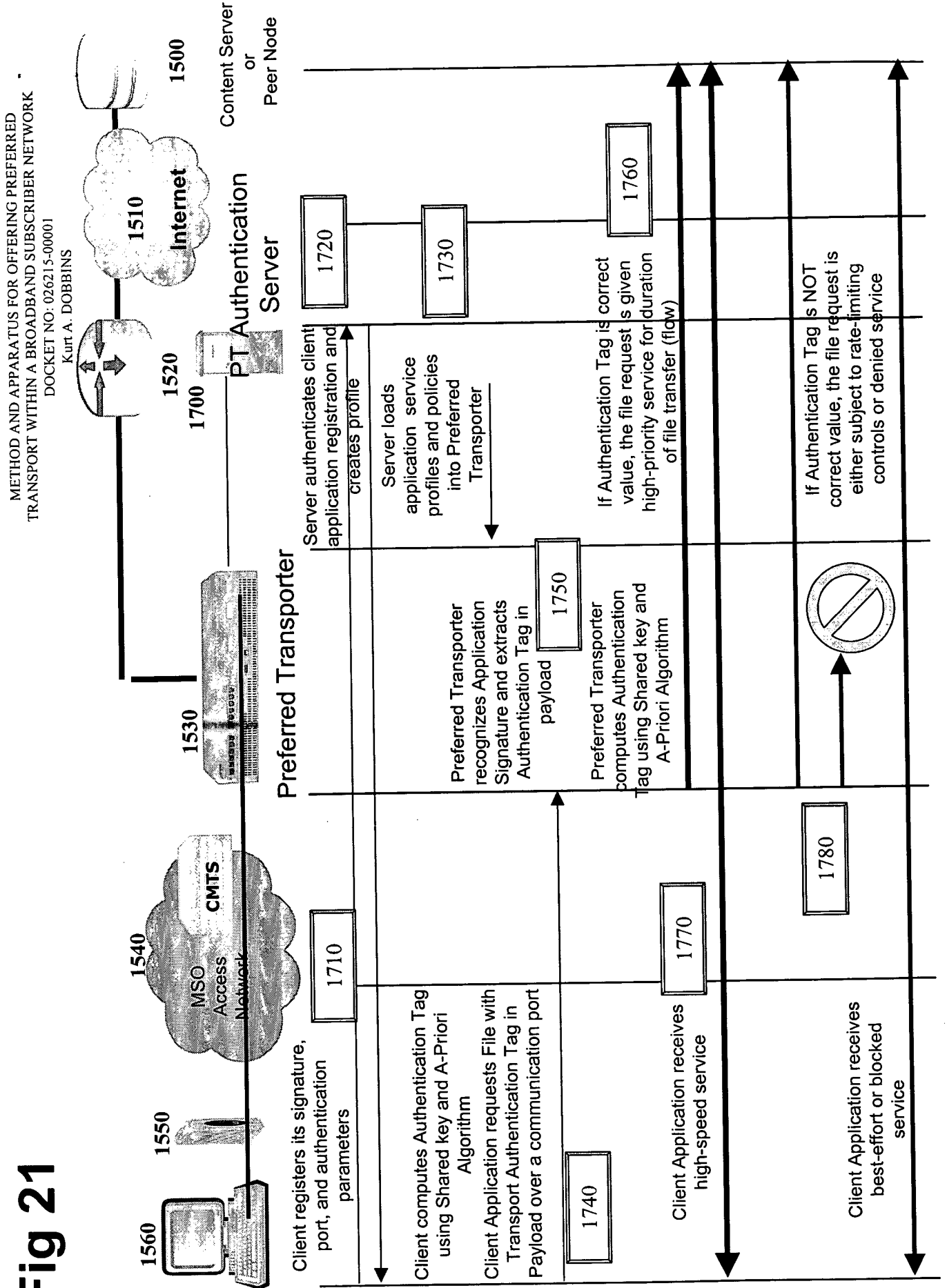


Figure 21a

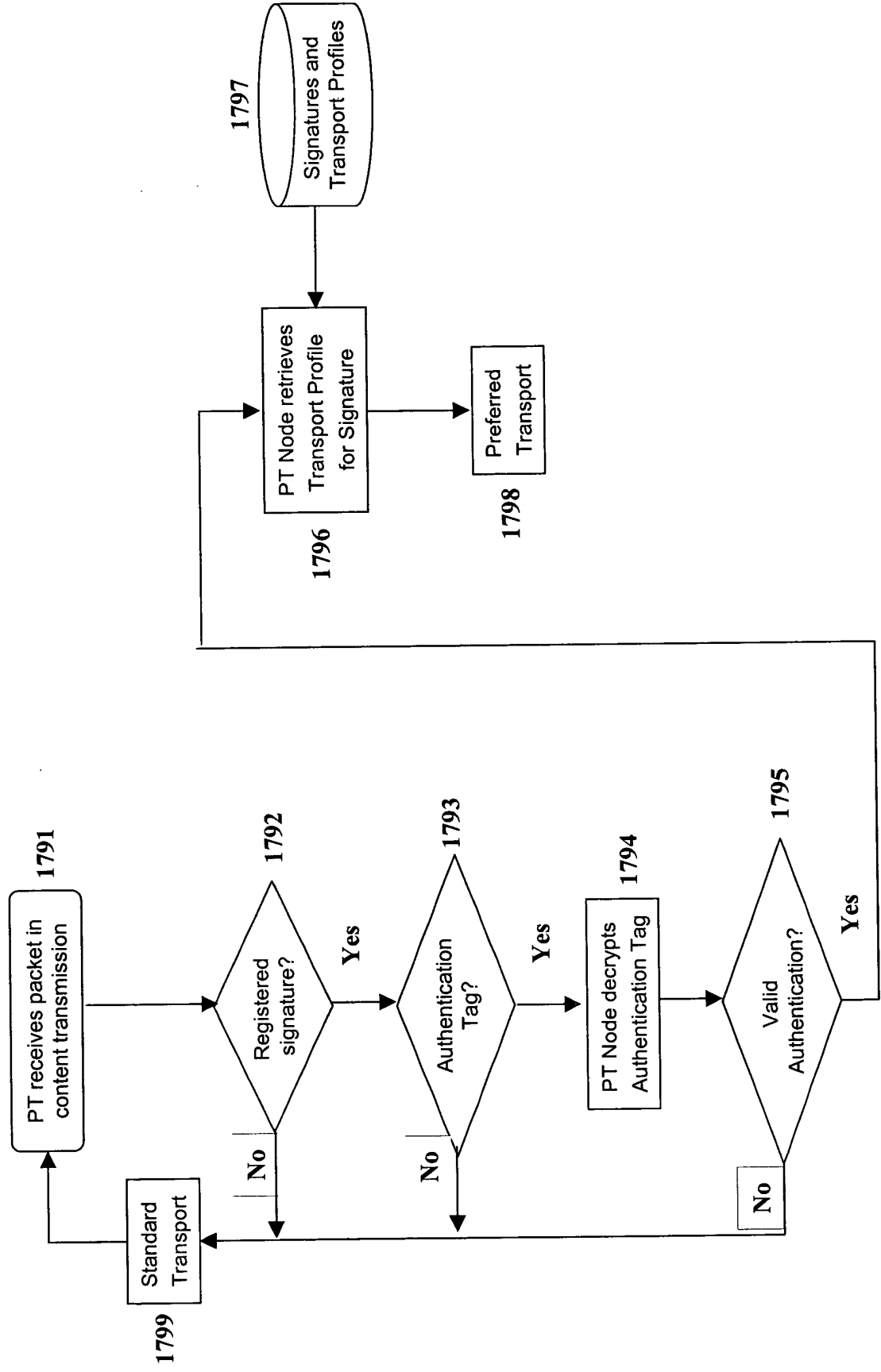


Figure 22

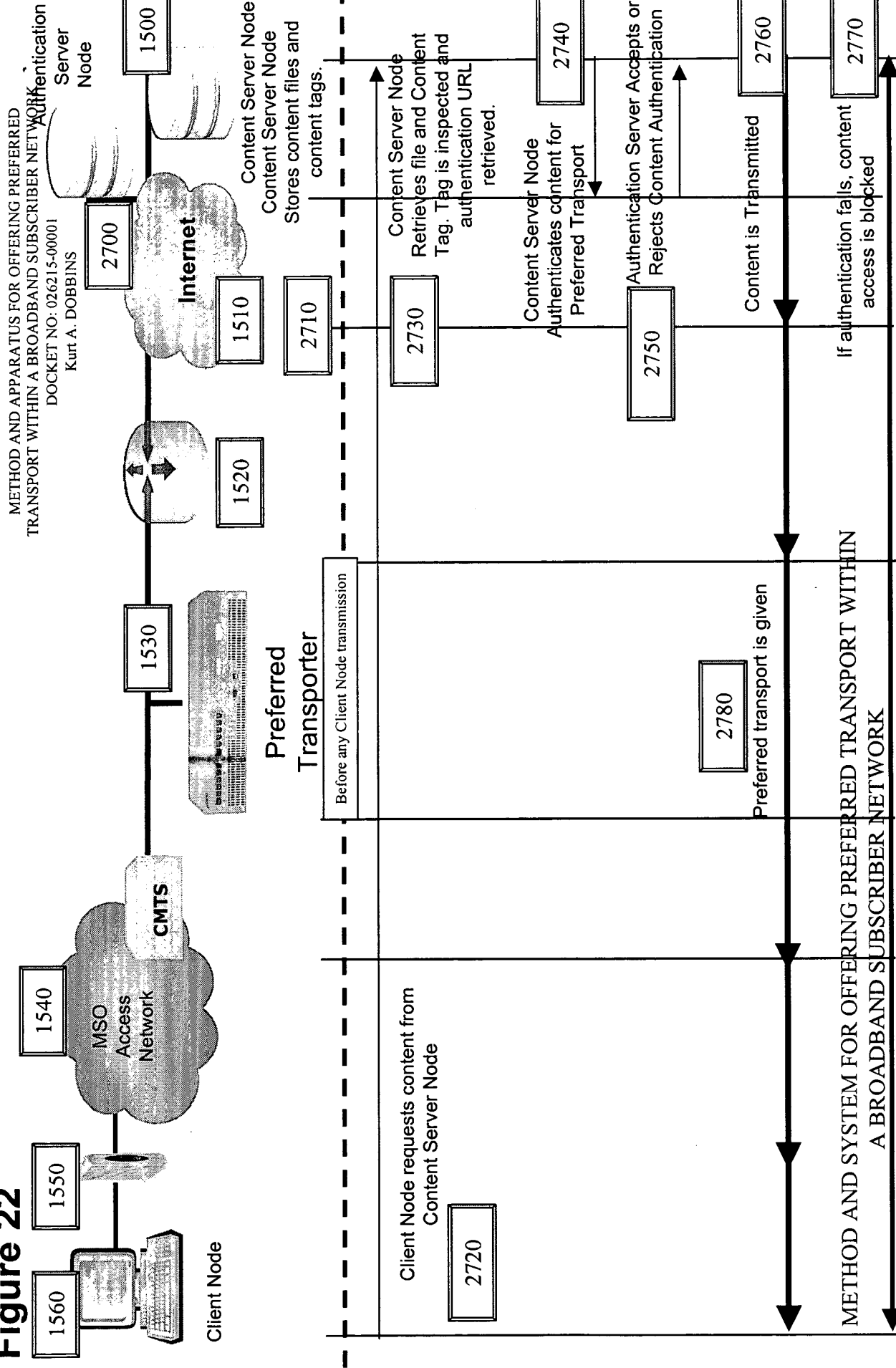


Figure 22a

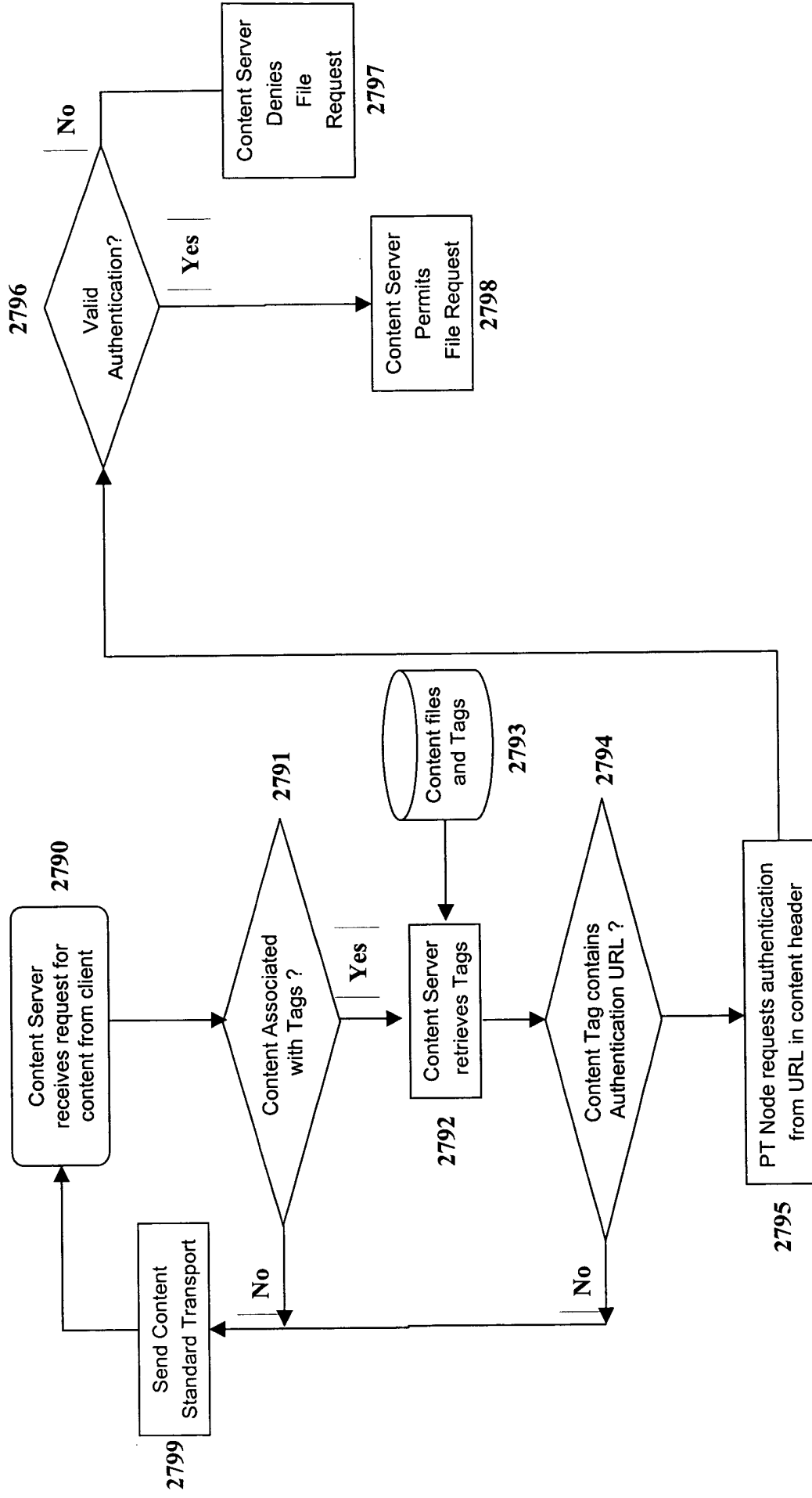


Figure 23

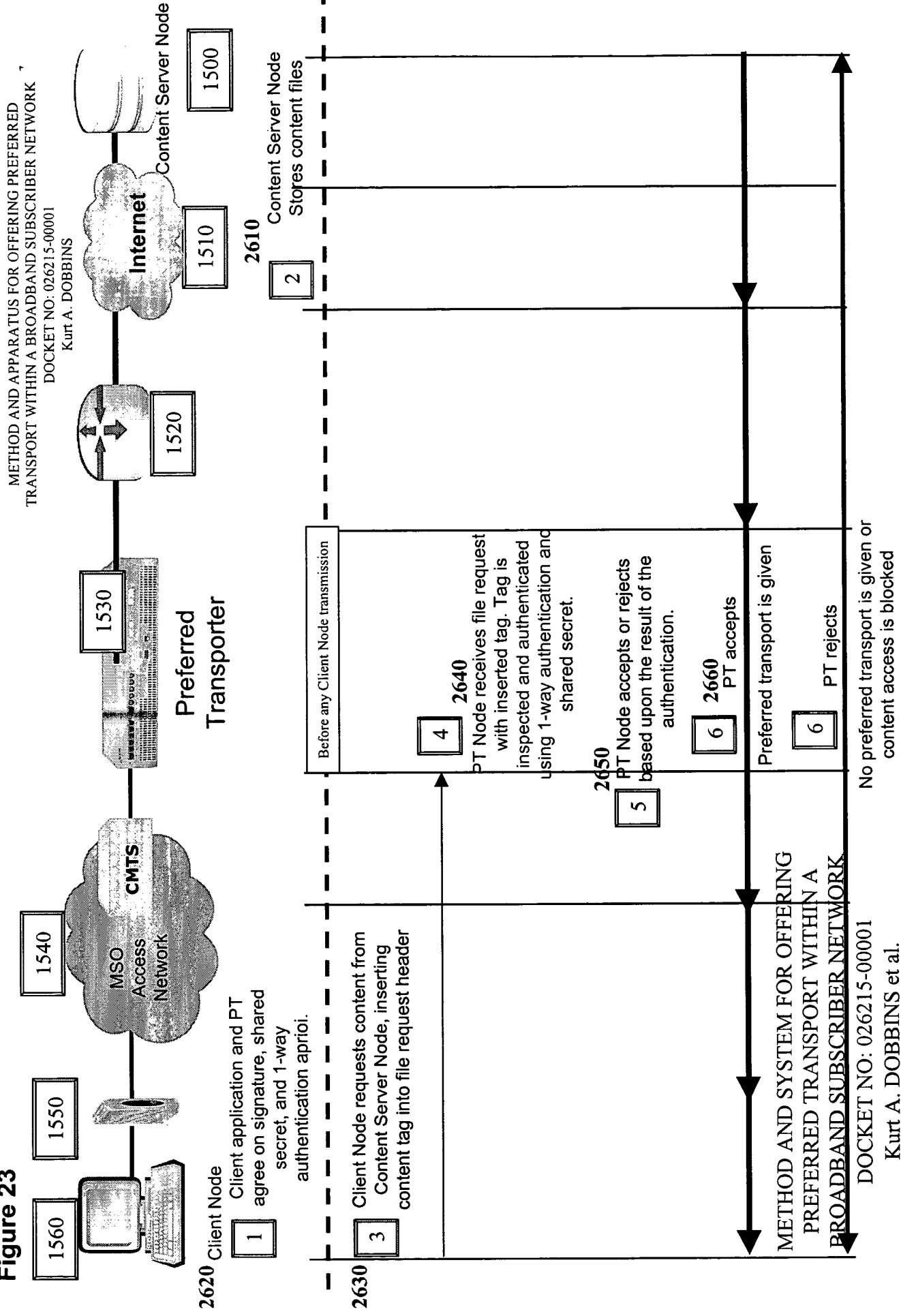


Figure 23a

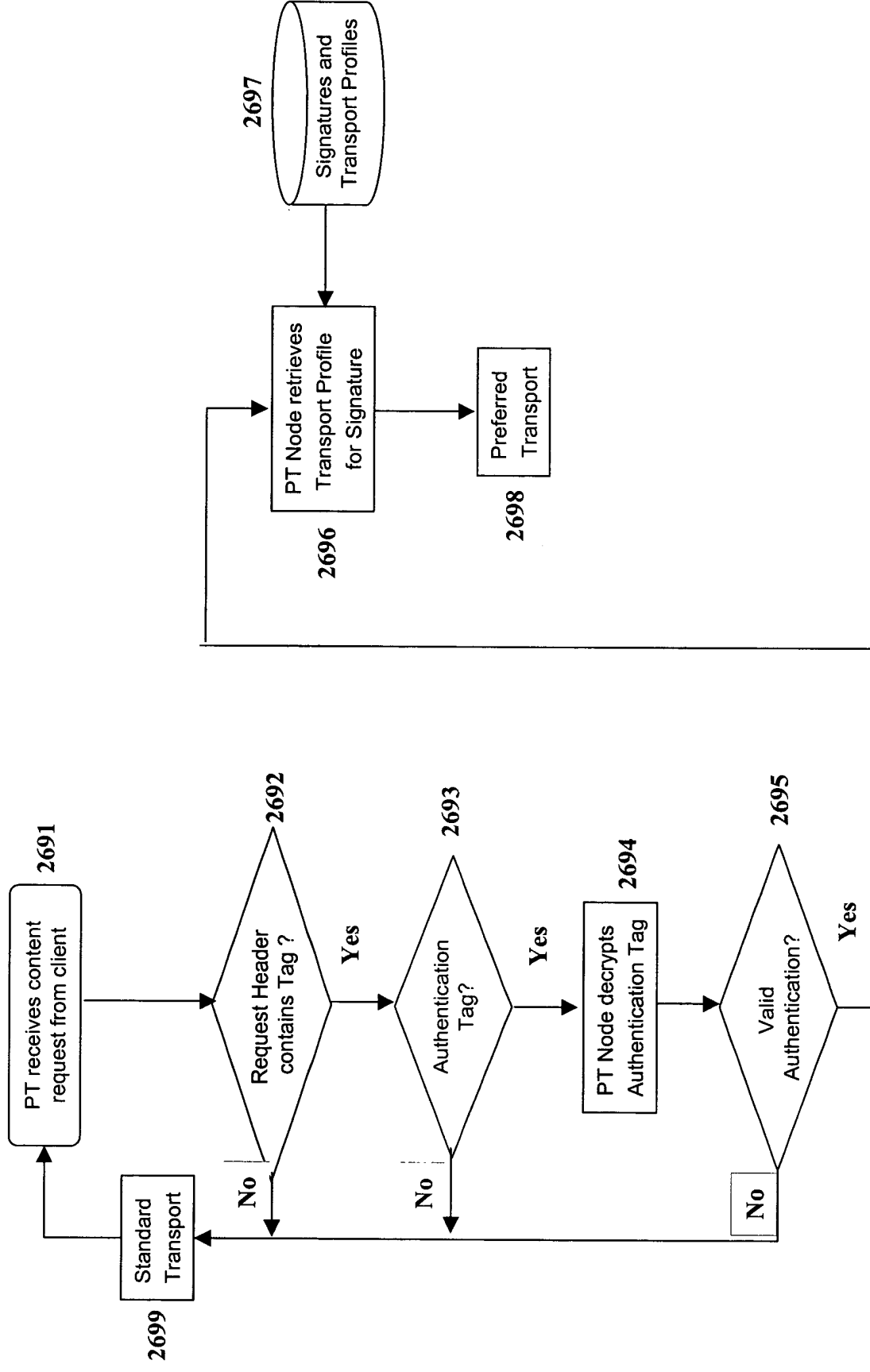


Figure 24

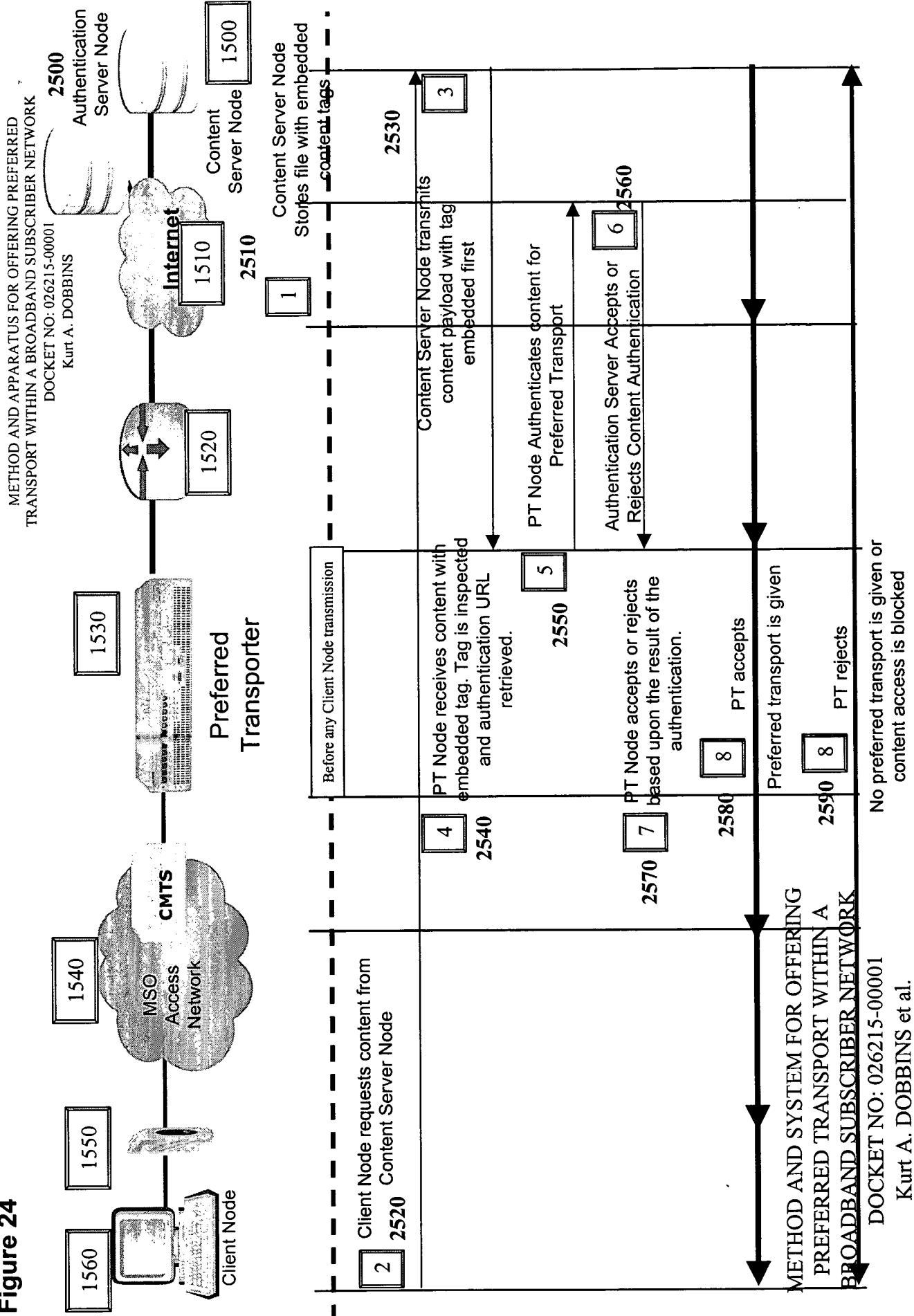


Figure 24a

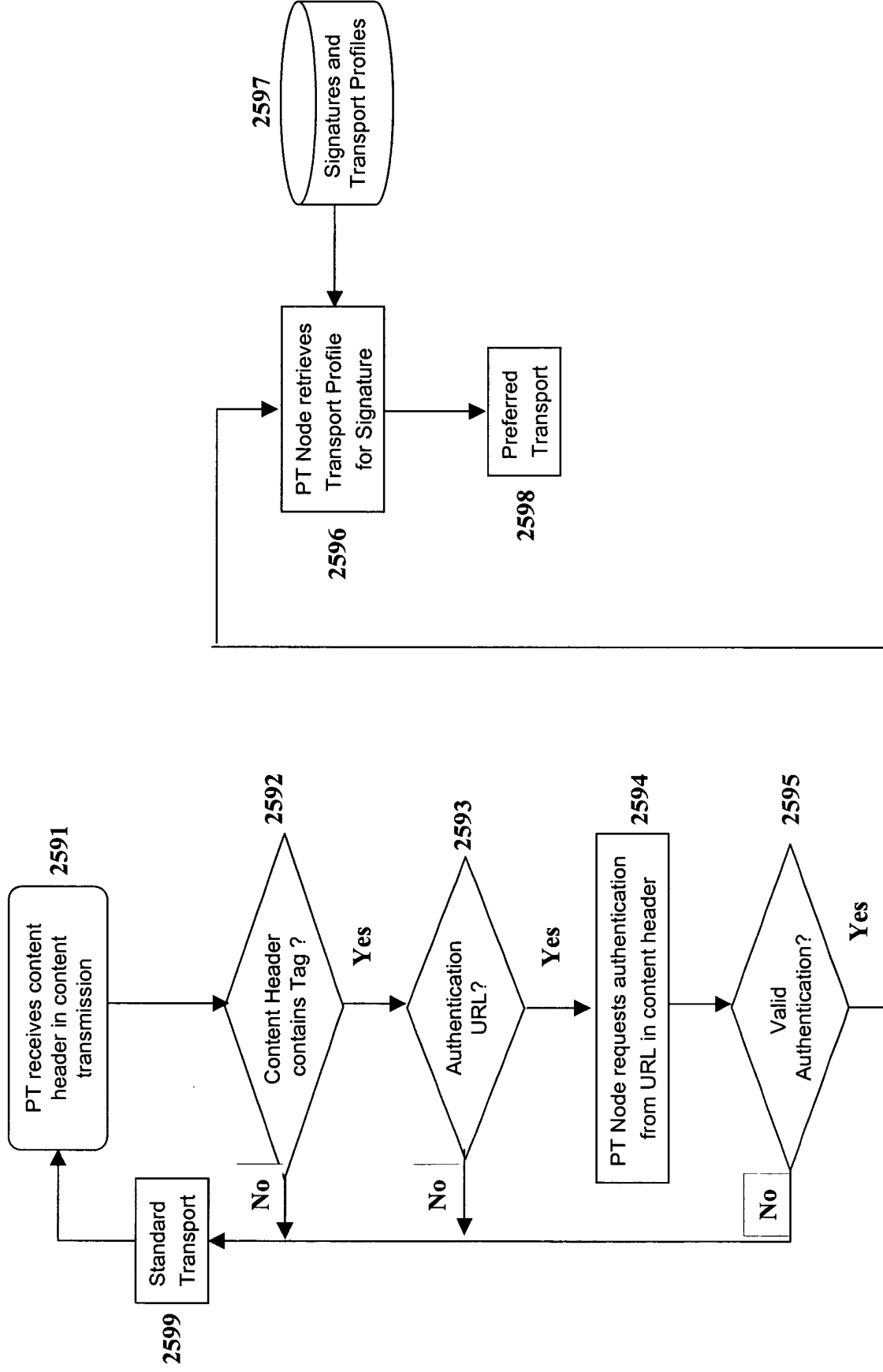


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Leverage OLD Tree for Self-naming Tags

- Gives digital representation to textual names
- Allows arbitrary hierarchy
- Extensible with new content types
- Packet encoding will use ASN.1 BER

Name Space Maintained by host

- Publish as Informational IETF MIB

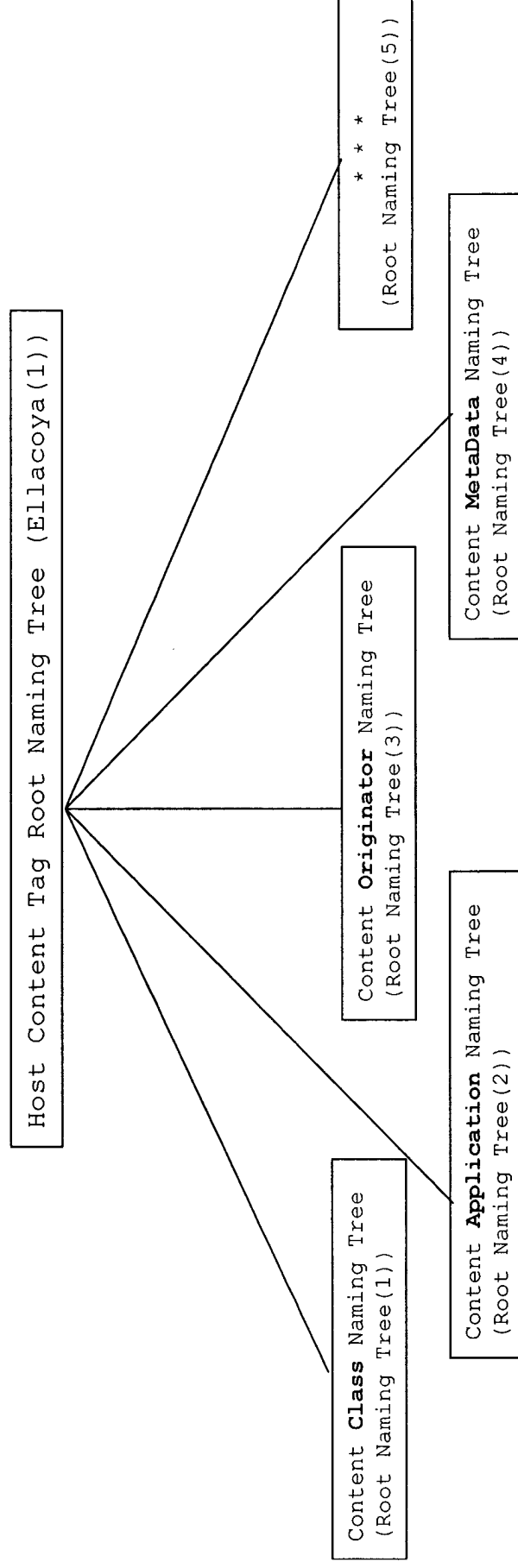


Figure 26

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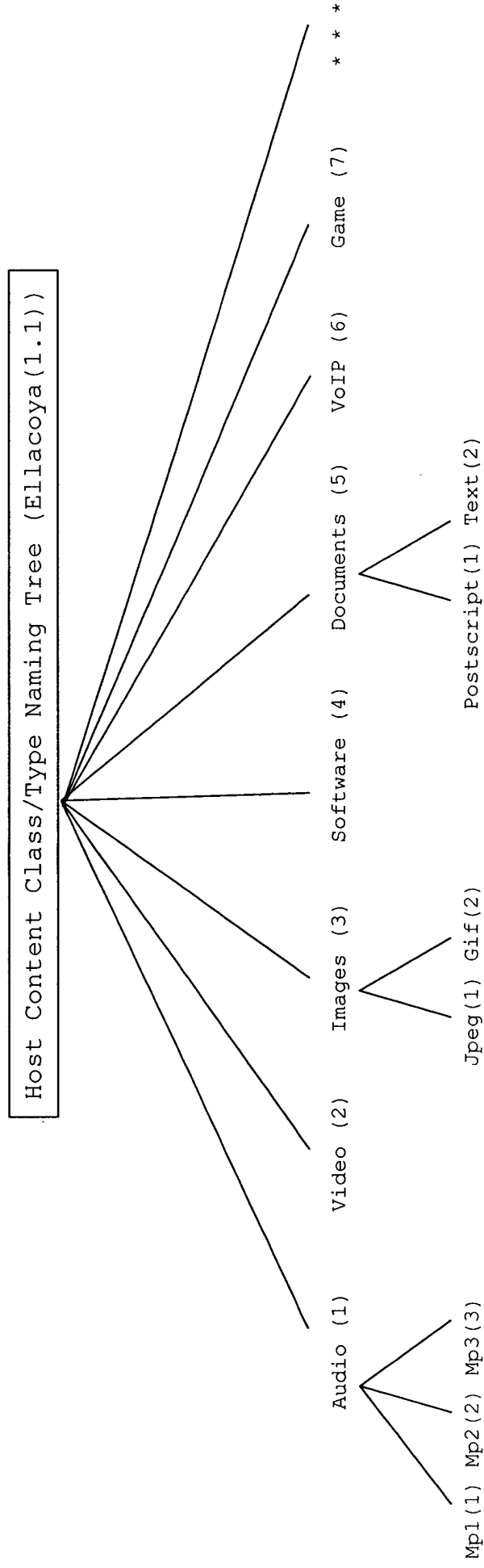


Figure 27

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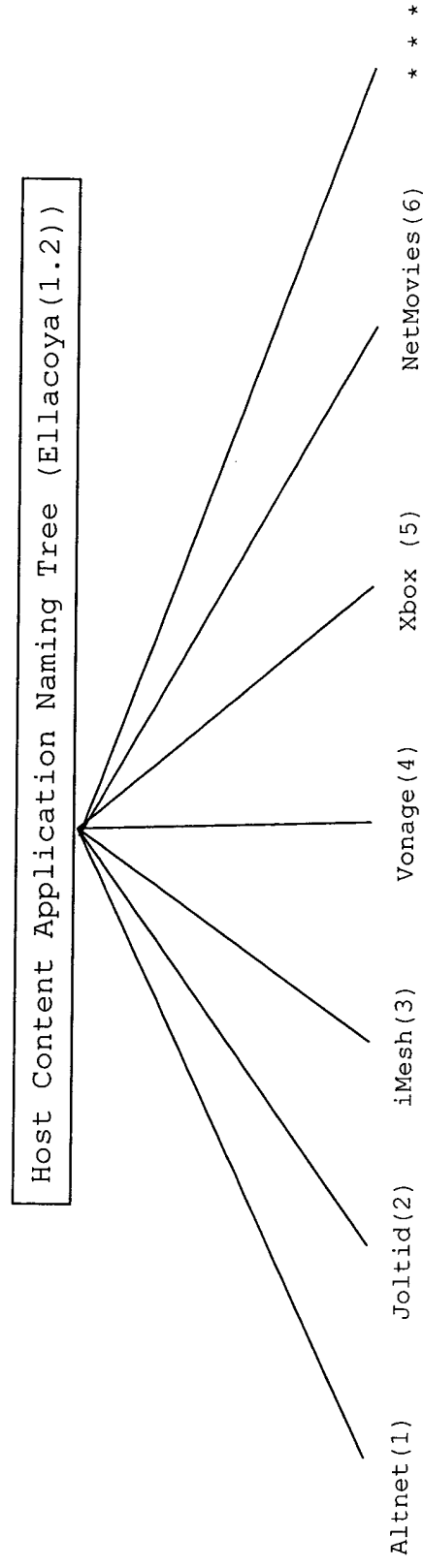


Figure 28

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